

GEPHE SUMMARY

EPSPS (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^EPSPS^#gephebase-summary-title)	Gephebase Gene	GP00001896	GepheID
Published	Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category=^Physiology^#gephebase-summary-title)	Trait Category		
Xenobiotic resistance (herbicides; glyphosate) (https://www.gephebase.org/search-criteria?/and+Trait=^Xenobiotic+resistance+(herbicides;+glyphosate)^#gephebase-summary-title)	Trait		
Lolium multiflorum - sensitive	Trait State in Taxon A		
Lolium multiflorum - resistant	Trait State in Taxon B		
Taxon A	Ancestral State		
Intraspecific (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Intraspecific^#gephebase-summary-title)	Taxonomic Status		
	Taxon A	Taxon B	
Lolium multiflorum (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Lolium+multiflorum^#gephebase-summary-title)	Latin Name	Lolium multiflorum (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Lolium+multiflorum^#gephebase-summary-title)	Latin Name
Italian ryegrass	Common Name	Italian ryegrass	Common Name
Lolium italicum; Lolium perenne subsp. multiflorum; Lolium perenne var. multiflorum; Italian ryegrass; Lolium italicum A.Braun, 1834, nom. illeg.; Lolium multiflorum Lam., 1779; Lolium perenne subsp. multiflorum (Lam.) Husn., 1899; Lolium perenne var. multiflorum (Lam.) Parn., 1845	Synonyms	Lolium italicum; Lolium perenne subsp. multiflorum; Lolium perenne var. multiflorum; Italian ryegrass; Lolium italicum A.Braun, 1834, nom. illeg.; Lolium multiflorum Lam., 1779; Lolium perenne subsp. multiflorum (Lam.) Husn., 1899; Lolium perenne var. multiflorum (Lam.) Parn., 1845	Synonyms
species	Rank	species	Rank
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliopsida; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Pooadae; Poaeae; Poaeae Chloroplast Group 2 (Poaeae type); Loliinae; Lolium	Lineage	cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliopsida; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Pooadae; Poaeae; Poaeae Chloroplast Group 2 (Poaeae type); Loliinae; Lolium	Lineage
Lolium () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4520)	Parent	Lolium () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4520)	Parent
4521 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4521)	NCBI Taxonomy ID	4521 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4521)	NCBI Taxonomy ID
No	is Taxon A an Intraspecies?	Yes	is Taxon B an Intraspecies?
		population R of California	Taxon B Description

GENOTYPIC CHANGE

At2g45300	Generic Gene Name	P05466 (http://www.uniprot.org/uniprot/P05466)	UniProtKB Arabidopsis thaliana
F4L23.19; At2g45300	Synonyms	()	GenebankID or UniProtKB
3702.AT2G45300.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=3702.AT2G45300.1)	String		
Belongs to the EPSP synthase family.	Sequence Similarities		
GO:0003866 : 3-phosphoshikimate 1-carboxyvinyltransferase activity	GO - Molecular Function		

(<https://www.ebi.ac.uk/QuickGO/term/GO:0003866>)

GO - Biological Process

GO:0009073 : aromatic amino acid family biosynthetic process

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009073>)

GO:0009423 : chorismate biosynthetic process

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009423>)

GO - Cellular Component

GO:0009507 : chloroplast (<https://www.ebi.ac.uk/QuickGO/term/GO:0009507>)

GO:0009570 : chloroplast stroma (<https://www.ebi.ac.uk/QuickGO/term/GO:0009570>)

Presumptive Null

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null=^No^#gephebase-summary-title))

Molecular Type

Coding ([https://www.gephebase.org/search-criteria?/and+Molecular Type=^Coding^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type=^Coding^#gephebase-summary-title))

Aberration Type

SNP ([https://www.gephebase.org/search-criteria?/and+Aberration Type=^SNP^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Aberration+Type=^SNP^#gephebase-summary-title))

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

Pro106Ser

Experimental Evidence

Candidate Gene ([https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Candidate Gene^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=^Candidate+Gene^#gephebase-summary-title))

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	-	-	-

Main Reference

Glyphosate-resistant Italian ryegrass (*Lolium multiflorum*) in California: distribution, response to glyphosate, and molecular evidence for an altered target enzyme . (2008)

(<https://pubmed.ncbi.nlm.nih.gov/00000000.000013>)

Authors

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Abstract

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Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

2 ([https://www.gephebase.org/search-criteria?/or+Gene Gephebase=^EPSPS^/and+Taxon ID=^4521^/or+Gene Gephebase=^EPSPS^/and+Taxon ID=^4521^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase=^EPSPS^/and+Taxon+ID=^4521^/or+Gene+Gephebase=^EPSPS^/and+Taxon+ID=^4521^#gephebase-summary-title))

EXTERNAL LINKS

COMMENTS